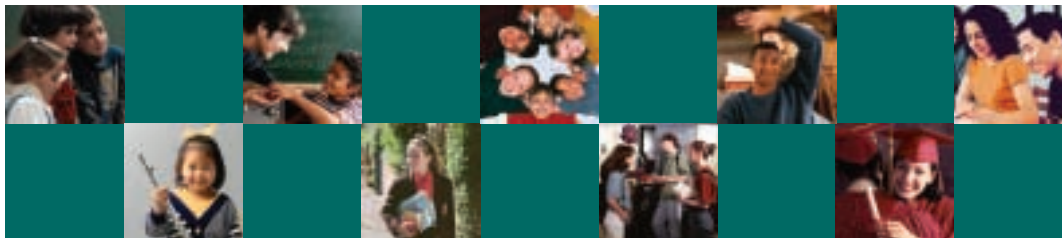


# the condition of education 2002



## INDICATOR 9

### International Comparisons of Reading Literacy

The indicator and corresponding tables are taken directly from *The Condition of Education 2002*. Therefore, the page numbers may not be sequential.

Additional information about the survey data and supplementary notes can be found in the full report. For a copy of *The Condition of Education 2002*, visit the NCES web site (<http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2002025>) or contact ED PUBs at 1-877-4ED-PUBS.

Suggested Citation:

U.S. Department of Education, National Center for Education Statistics, *The Condition of Education 2002*, NCES 2002-025, Washington, DC: U.S. Government Printing Office, 2002.

## NATIONAL CENTER FOR EDUCATION STATISTICS

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U.S. Department of Education  
Office of Educational Research and Improvement

# Academic Outcomes

## International Comparisons of Reading Literacy

*U.S. 15-year-olds performed at the international average in reading literacy in 2000, scored below the average of 3 countries, and above the average of 4 industrialized countries.*

The Program for International Student Assessment (PISA) reports on the reading literacy of 15-year-olds in 27 participating Organization for Economic Cooperation and Development (OECD) industrialized countries and 4 non-OECD countries assessed in 2000. The average U.S. reading literacy score was similar to the international average of the 27 OECD countries. U.S. students had a lower average score than students in 3 countries and a higher average score than students in 4 OECD and 3 non-OECD countries. On specific reading skill areas (retrieving information, interpreting texts, reflecting on texts), U.S. students also scored similarly to the international averages. In each specific skill area, a few countries outperformed the United States (see supplemental table 9-1).

Countries differ in the extent to which students' scores are distributed above and below the national average. The standard deviation of reading literacy scores in each country can be used to determine how much scores vary from the country's average score. Fifteen countries showed less variation from their average score than the United States, no country had more variation, and 15 countries had similar variation.

In almost all countries, students whose parents had a high school diploma or higher outperformed students whose parents had less than a high school diploma. No country had a larger reading literacy point difference between students whose parents had a bachelor's degree or higher and those whose parents had not completed high school than the United States. In addition, females outperformed males in reading literacy in every country (see supplemental table 9-2).

The socioeconomic status of students' parents was positively associated with performance in reading literacy in the United States. Each 1-point increase in the International Socioeconomic Index (ISEI), a measure based on parents' occupation, was associated with an increase in literacy scores on average for each country. The larger the increase in literacy score in a country, the stronger was the relationship between socioeconomic status and reading literacy performance in that country. Each 1-point increase in ISEI led to a 2.1-point difference in reading literacy in the United States, which was similar to the international average point difference.

\*The international average is the average of OECD countries only and thus excludes Brazil, Latvia, Liechtenstein, and the Russian Federation.

NOTE: A standard deviation provides information about the distribution of students' combined reading literacy scale scores. In a normal distribution, 68 percent of scores fall within plus or minus one standard deviation of the mean, and 95 percent fall within plus or minus two standard deviations of the mean. For more information on this study, see *Supplemental Note 4*.

SOURCE: U.S. Department of Education, NCES. (2001). *Outcomes of Learning: Results from the 2000 Program for International Student Assessment of 15-Year-Olds in Reading, Mathematics, and Science Literacy* (NCES 2002-115).

FOR MORE INFORMATION:

Supplemental Note 4  
Supplemental Tables 9-1, 9-2  
OECD 2001



**INTERNATIONAL READING LITERACY: Average reading literacy score of 15-year-olds, by country: 2000**

Average score relative to the United States	Country and score					
Significantly higher	Finland	546	Canada	534	New Zealand	529
Not significantly different	Australia	528	Iceland	507	Spain	493
	Ireland	527	France	505	Czech Republic	492
	Korea, Republic of	525	Norway	505	Italy	487
	United Kingdom	523	<b>United States</b>	<b>504</b>	Germany	484
	Japan	522	<i>International average*</i>	<i>500</i>	Liechtenstein	483
	Sweden	516	Denmark	497	Hungary	480
	Austria	507	Switzerland	494	Poland	479
	Belgium	507				
Significantly lower	Greece	474	Latvia	458	Mexico	422
	Portugal	470	Luxembourg	441	Brazil	396
	Russian Federation	462				

## International Comparisons of Reading Literacy

Table 9-1 Combined reading literacy average scores, standard deviation, and average subscale scores of 15-year-olds, by country: 2000

Country	Combined reading literacy score	Standard deviation <sup>1</sup>	Reading subscales		
			Retrieving information	Interpreting texts	Reflecting on texts
International average <sup>2</sup>	500	100	498	501	502
Australia	528	102	*536	527	526
Austria	507	*93	502	508	512
Belgium	507	107	515	512	497
Brazil	*396	*86	*365	*400	*417
Canada	*534	*95	*530	*532	*542
Czech Republic	492	96	481	500	485
Denmark	497	98	498	494	500
Finland	*546	*89	*556	*555	*533
France	505	*92	515	506	496
Germany	484	111	483	488	*478
Greece	*474	97	*450	*475	495
Hungary	480	*94	478	480	*481
Iceland	507	*92	500	514	501
Ireland	527	*94	524	526	*533
Italy	487	*91	488	489	483
Japan	522	*86	526	518	530
Korea, Republic of	525	*70	*530	525	526
Latvia	*458	102	*451	*459	*458
Liechtenstein	483	96	492	484	*468
Luxembourg	*441	100	*433	*446	*442
Mexico	*422	*86	*402	*419	*446
New Zealand	*529	108	*535	526	529
Norway	505	104	505	505	506
Poland	479	100	475	482	*477
Portugal	*470	97	*455	*473	*480
Russian Federation	*462	*92	*451	*468	*455
Spain	493	*85	483	491	506
Sweden	516	*92	516	522	510
Switzerland	494	102	498	496	488
United Kingdom	523	100	523	514	*539
United States	504	105	499	505	507

\*Significantly different from the United States.

<sup>1</sup>A standard deviation provides information about the distribution of students' combined reading literacy scale scores. In a normal distribution, 68 percent of scores fall within plus or minus one standard deviation of the mean, and 95 percent fall within plus or minus two standard deviations of the mean.

<sup>2</sup>The international average is the average of OECD countries only and thus excludes Brazil, Latvia, Liechtenstein, and the Russian Federation. For more information on this study, see *Supplemental Note 4*.

SOURCE: U.S. Department of Education, NCES. (2001). *Outcomes of Learning: Results from the 2000 Program for International Student Assessment of 15-Year-Olds in Reading, Mathematics, and Science Literacy* (NCES 2002–115).

## International Comparisons of Reading Literacy

**Table 9-2 Relationship between socioeconomic status and combined reading literacy average score and combined reading literacy average score, by sex and parents' education, by country: 2000**

Country	Socioeconomic status Average score increase with a one- point increase on the ISEI index <sup>1</sup>	Sex			Parents' education			
		Female	Male	Differ- ence <sup>2</sup>	Less than high school	High school diploma or equivalent	Bachelor's degree or higher	Differ- ence <sup>2</sup>
International average <sup>3</sup>	2.1	517	485	32	*471	508	530	59
Australia	1.9	*546	513	34	*498	*521	559	61
Austria	2.2	520	495	26	*495	*533	536	*41
Belgium	2.3	525	492	33	450	*540	519	69
Brazil	1.6	*404	*388	17	*374	*420	*428	*54
Canada	1.6	*551	*519	32	*482	*522	549	67
Czech Republic	2.7	510	473	37	450	502	538	88
Denmark	1.8	510	485	25	457	491	528	71
Finland	*1.3	*571	*520	*51	*531	*559	*566	*35
France	1.9	519	490	29	*484	*530	523	*39
Germany	2.8	502	468	35	464	511	524	60
Greece	1.7	*493	*456	37	442	482	*495	53
Hungary	2.4	496	465	32	433	495	529	96
Iceland	*1.2	528	488	40	*497	509	526	*29
Ireland	1.9	*542	513	29	*505	*530	544	*39
Italy	1.6	507	469	38	465	502	515	*50
Japan	*0.4	537	507	30	—	—	—	—
Korea, Republic of	*0.9	533	*519	14	*507	*532	541	*34
Latvia	*1.3	*485	*432	*53	*403	*458	*473	70
Liechtenstein	2.0	500	468	31	*476	(#)	509	*33
Luxembourg	2.4	*456	*429	27	*418	*469	*479	61
Mexico	1.9	*432	*411	20	*403	*457	*469	66
New Zealand	2.0	*553	507	46	*515	*541	549	*34
Norway	1.8	529	486	43	*492	500	520	*28
Poland	2.2	498	461	36	443	485	533	90
Portugal	2.4	*482	*458	25	456	482	514	58
Russian Federation	1.6	*481	*443	38	418	*458	*476	58
Spain	1.6	505	481	24	*473	510	525	*52
Sweden	1.7	536	499	37	*495	*518	526	*31
Switzerland	2.5	510	480	30	*477	517	519	*42
United Kingdom	2.4	537	512	26	*500	*558	547	*47
United States	2.1	518	490	29	443	497	536	93

—Not available.

#Too small to report.

\*Significantly different from the United States.

<sup>1</sup>Socioeconomic status is measured by the International Socioeconomic Index (ISEI), a measure based on the occupations of the student's parent(s). Occupations ranged from 16 to 90 on the ISEI index. The numbers shown in the table indicate the strength of the relationship between socioeconomic status and literacy. A one-point difference in ISEI is associated with an n-point difference in literacy, where "n" is the number shown in the table. Thus, the larger the number, the greater is the association between socioeconomic status and literacy. For example, in the United States, a 50-point difference on the ISEI is roughly equivalent to the difference in socioeconomic status between a medical doctor and a motor vehicle mechanic, or an architect and a garbage collector. This 50-point ISEI difference would translate to a score difference of approximately 105 points in reading literacy. For more information on this measure, see NCES 2002–115.

<sup>2</sup>The difference was computed by subtracting the male score from the female score and by subtracting the score for students whose parents had less than a high school diploma from the score for students whose parents had a bachelor's degree or higher.

<sup>3</sup>The international average is the average of OECD countries only and thus excludes Brazil, Latvia, Liechtenstein, and the Russian Federation. For more information on this study, see *Supplemental Note 4*.

SOURCE: U.S. Department of Education, NCES. (2001). *Outcomes of Learning: Results from the 2000 Program for International Student Assessment of 15-Year-Olds in Reading, Mathematics, and Science Literacy* (NCES 2002–115).

## International Comparisons of Reading Literacy

Table S9 Standard errors for the average reading literacy score of 15-year-olds, by country: 2000

Country	Combined reading literacy score
International average	0.6
Australia	3.5
Austria	2.4
Belgium	3.6
Brazil	3.1
Canada	1.6
Czech Republic	2.4
Denmark	2.4
Finland	2.6
France	2.7
Germany	2.5
Greece	5.0
Hungary	4.0
Iceland	1.5
Ireland	3.2
Italy	2.9
Japan	5.2
Korea, Republic of	2.4
Latvia	5.3
Liechtenstein	4.1
Luxembourg	1.6
Mexico	3.3
New Zealand	2.8
Norway	2.8
Poland	4.5
Portugal	4.5
Russian Federation	4.2
Spain	2.7
Sweden	2.2
Switzerland	4.2
United Kingdom	2.6
United States	7.0

SOURCE: U.S. Department of Education, NCES. (2001). *Outcomes of Learning: Results from the 2000 Program for International Student Assessment of 15-Year-Olds in Reading, Mathematics, and Science Literacy* (NCES 2002–115).

## International Comparisons of Reading Literacy

**Table S9-1** Standard errors for the combined reading literacy average scores, standard deviation, and average subscale scores of 15-year-olds, by country: 2000

Country	Combined reading literacy score	Standard deviation	Reading subscales		
			Retrieving information	Interpreting texts	Reflecting on texts
International average	0.6	0.4	0.7	0.6	0.7
Australia	3.5	1.6	3.7	3.5	3.4
Austria	2.4	1.6	2.3	2.4	2.7
Belgium	3.6	2.4	3.9	3.2	4.3
Brazil	3.1	1.9	3.4	3.0	3.3
Canada	1.6	1.1	1.7	1.6	1.6
Czech Republic	2.4	1.9	2.7	2.4	2.6
Denmark	2.4	1.8	2.8	2.4	2.6
Finland	2.6	2.6	2.8	2.9	2.7
France	2.7	1.7	3.0	2.7	2.9
Germany	2.5	1.9	2.4	2.5	2.9
Greece	5.0	2.7	5.4	4.5	5.6
Hungary	4.0	2.1	4.4	3.8	4.3
Iceland	1.5	1.4	1.6	1.4	1.3
Ireland	3.2	1.7	3.3	3.3	3.1
Italy	2.9	2.7	3.1	2.6	3.1
Japan	5.2	3.0	5.5	5.0	5.4
Korea, Republic of	2.4	1.6	2.5	2.3	2.6
Latvia	5.3	2.3	5.7	4.9	5.9
Liechtenstein	4.1	3.9	4.9	4.5	5.7
Luxembourg	1.6	1.5	1.6	1.6	1.9
Mexico	3.3	2.1	3.9	2.9	3.7
New Zealand	2.8	2.0	2.8	2.7	2.9
Norway	2.8	1.7	2.9	2.8	3.0
Poland	4.5	3.1	5.0	4.3	4.7
Portugal	4.5	1.8	4.9	4.3	4.5
Russian Federation	4.2	1.8	4.9	4.0	4.0
Spain	2.7	1.2	3.0	2.6	2.8
Sweden	2.2	1.2	2.4	2.1	2.3
Switzerland	4.2	2.0	4.4	4.2	4.8
United Kingdom	2.6	1.5	2.5	2.5	2.5
United States	7.0	2.7	7.4	7.1	7.1

SOURCE: U.S. Department of Education, NCES. (2001). *Outcomes of Learning: Results from the 2000 Program for International Student Assessment of 15-Year-Olds in Reading, Mathematics, and Science Literacy* (NCES 2002-115).

## International Comparisons of Reading Literacy

**Table S9-2** Standard errors for the relationship between socioeconomic status and combined reading literacy average score and combined reading literacy average score, by sex and parents' education, by country: 2000

Country	Socioeconomic status Average score increase with a one- point increase on the ISEI index	Sex			Parents' education			
		Female	Male	Differ- ence	Less than high school	High school diploma or equivalent	Bachelor's degree or higher	Differ- ence
International average	(#)	0.7	0.8	0.9	0.9	0.8	0.8	1.2
Australia	0.1	4.7	4.0	5.4	3.7	3.6	4.4	5.7
Austria	0.1	3.6	3.2	5.2	2.5	6.4	3.5	4.3
Belgium	0.1	4.9	4.2	6.0	4.7	3.0	4.0	6.2
Brazil	0.1	3.4	3.9	4.0	3.4	3.5	5.9	6.8
Canada	0.1	1.7	1.8	1.6	2.8	2.1	1.6	3.2
Czech Republic	0.1	2.5	4.1	4.7	4.1	2.5	4.1	5.8
Denmark	0.1	2.9	3.0	3.3	4.0	3.3	2.6	4.8
Finland	0.1	2.8	3.0	2.6	3.3	3.9	3.2	4.6
France	0.1	2.7	3.5	3.4	3.5	3.3	2.8	4.5
Germany	0.1	3.9	3.2	5.2	3.8	5.3	4.6	6.0
Greece	0.2	4.6	6.1	5.0	6.0	4.3	6.0	8.5
Hungary	0.1	4.3	5.3	5.7	4.3	3.9	5.5	7.0
Iceland	0.1	2.1	2.1	3.1	2.3	3.3	2.6	3.5
Ireland	0.1	3.6	4.2	4.6	3.8	3.7	4.2	5.7
Italy	0.1	3.6	5.1	7.0	4.0	3.4	4.5	6.0
Japan	0.2	5.4	6.7	6.4	—	—	—	—
Korea, Republic of	0.1	3.7	3.8	6.0	2.9	2.8	3.5	4.5
Latvia	0.1	5.4	5.5	4.2	8.6	5.4	6.4	10.7
Liechtenstein	0.3	6.8	7.3	11.5	6.5	(#)	8.7	10.9
Luxembourg	0.1	2.3	2.6	3.8	3.0	4.0	3.6	4.7
Mexico	0.1	3.8	4.2	4.3	2.9	5.2	6.5	7.1
New Zealand	0.1	3.8	4.2	6.3	3.8	5.7	3.6	5.2
Norway	0.1	2.9	3.8	4.0	3.8	3.9	3.6	5.2
Poland	0.2	5.5	6.0	7.0	4.9	4.3	7.2	8.7
Portugal	0.1	4.6	5.0	3.8	4.2	6.3	6.8	8.0
Russian Federation	0.1	4.1	4.5	2.9	7.4	3.9	4.3	8.6
Spain	0.1	2.8	3.4	3.2	3.0	3.1	2.8	4.1
Sweden	0.1	2.5	2.6	2.7	3.5	2.9	2.6	4.4
Switzerland	0.1	4.5	4.9	4.2	4.0	7.2	5.2	6.6
United Kingdom	0.1	3.4	3.0	4.1	3.0	5.6	3.1	4.3
United States	0.2	6.2	8.4	4.1	7.2	4.9	6.4	9.6

— Not available.

# Too small to report.

SOURCE: U.S. Department of Education, NCES. (2001). *Outcomes of Learning: Results from the 2000 Program for International Student Assessment of 15-Year-Olds in Reading, Mathematics, and Science Literacy* (NCES 2002–115).